

Presentation to Governor's Task Force on Seacoast Cancer Cluster

Schiller Station – Portsmouth, NH

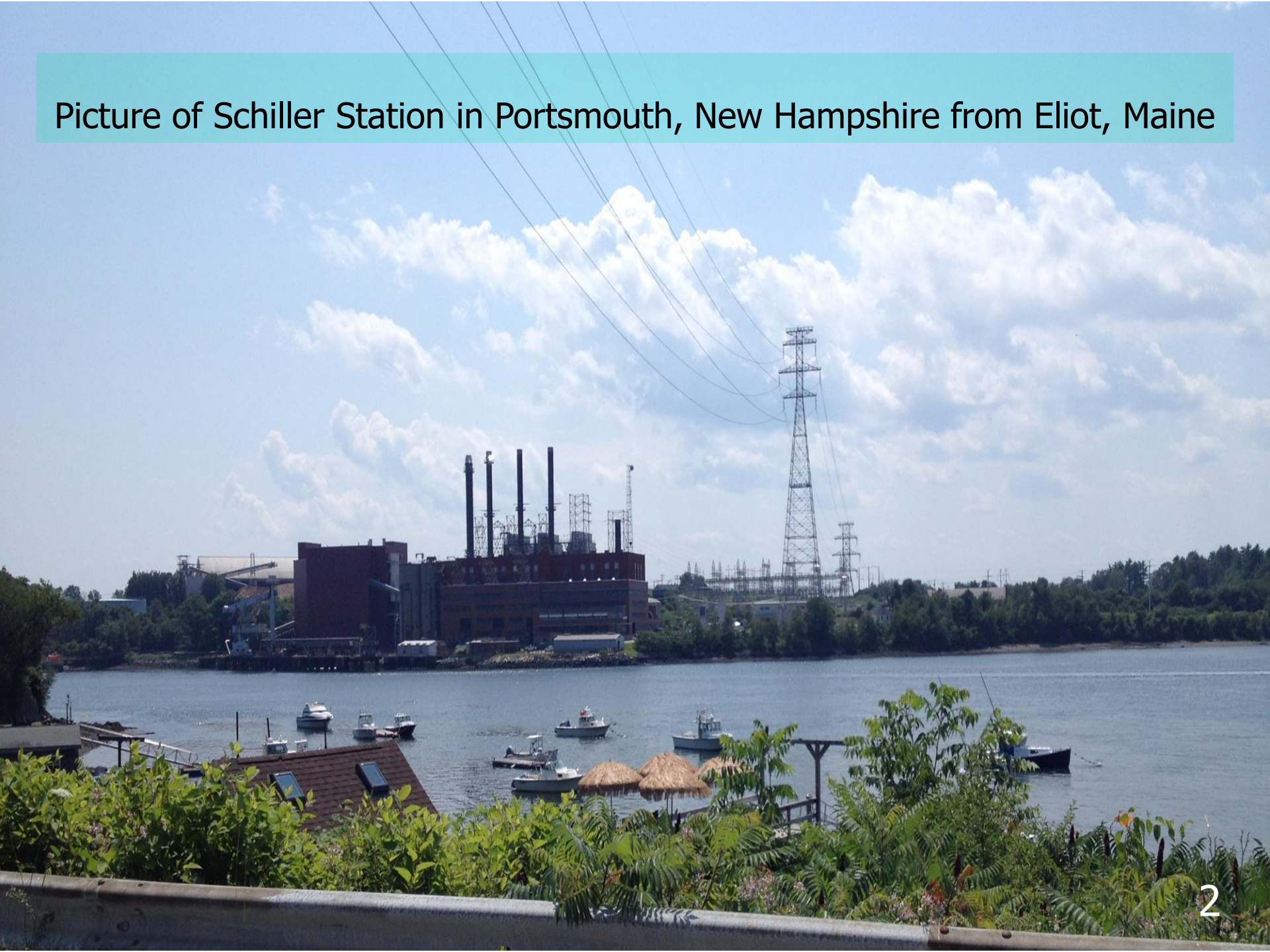
Craig A. Wright
Director

NH Department of Environmental Services
Air Resources Division

October 12, 2016



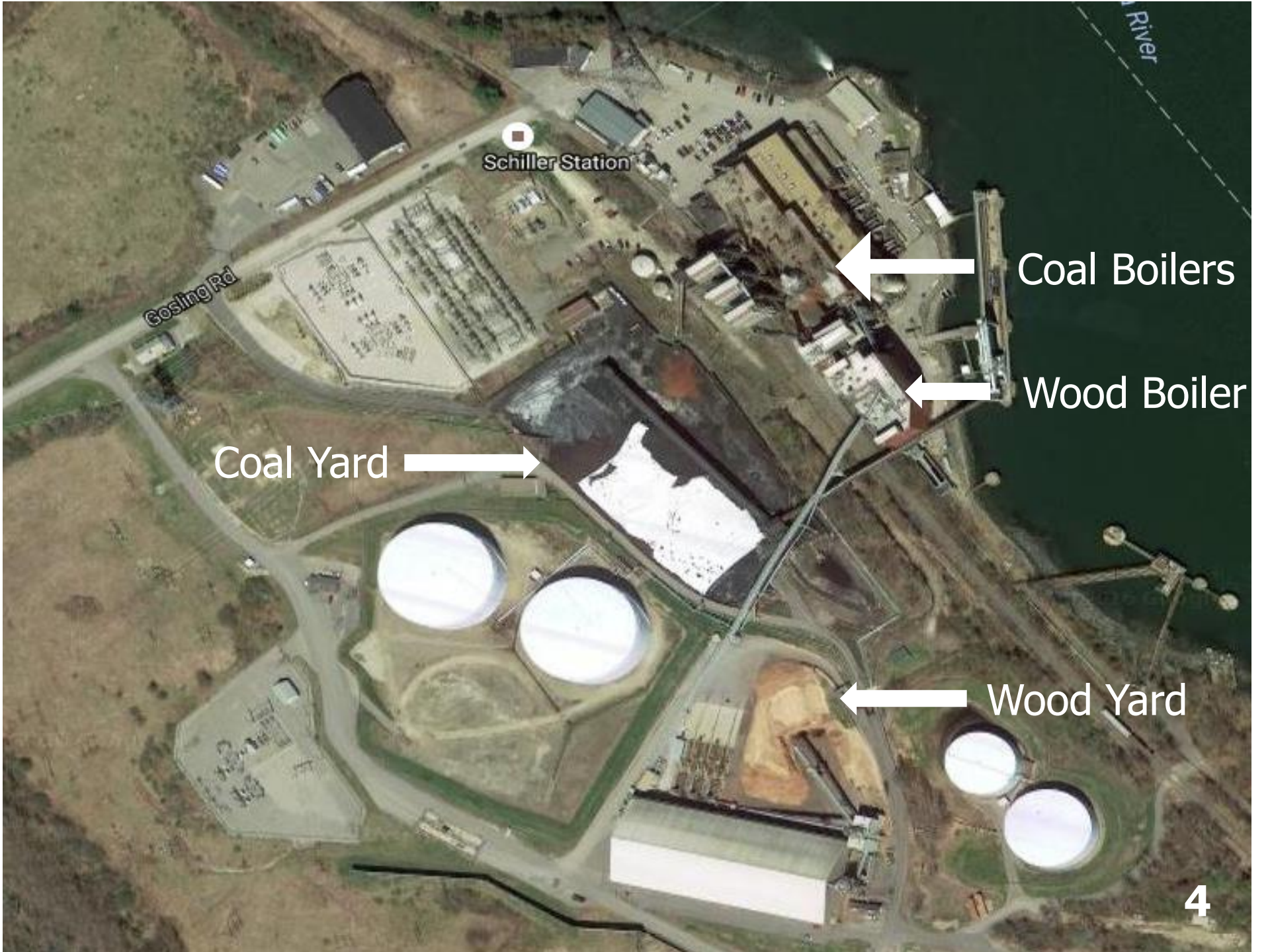
Picture of Schiller Station in Portsmouth, New Hampshire from Eliot, Maine





Facility Description

- Fossil fuel-fired electric generating facility in Portsmouth, NH.
 - Three 50 MW utility boilers
 - Units SR4 and SR6 – installed 1950s
 - Fuels: Coal, fuel oil, cocoa bean shells (< 8%)
 - Unit SR5 – installed 2006
 - Fuels: Wood chips, coal
 - One 18 MW combustion turbine operating as a load shaving unit
 - One emergency generator (235 HP)



Schiller Station

Gosling Rd

Coal Boilers

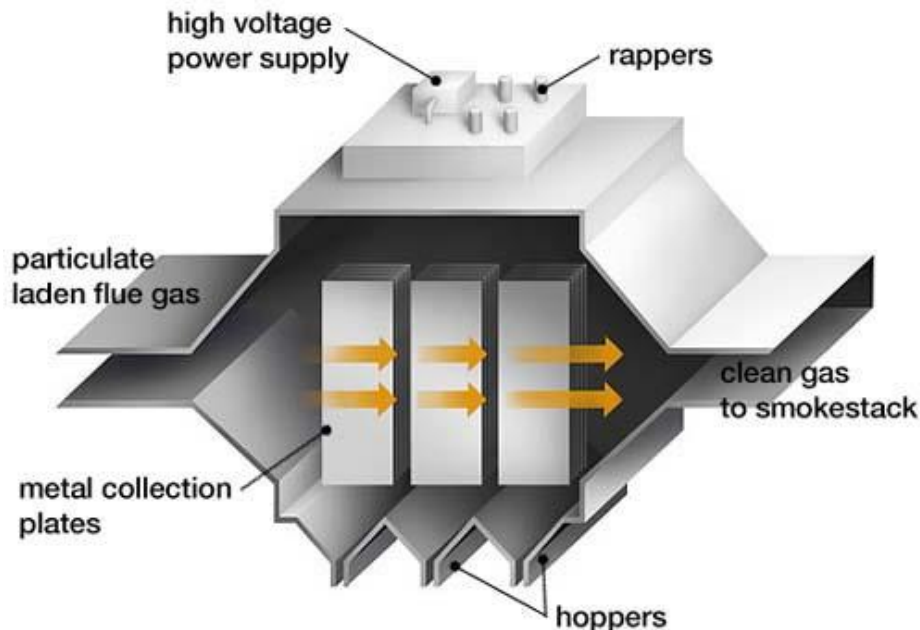
Wood Boiler

Coal Yard

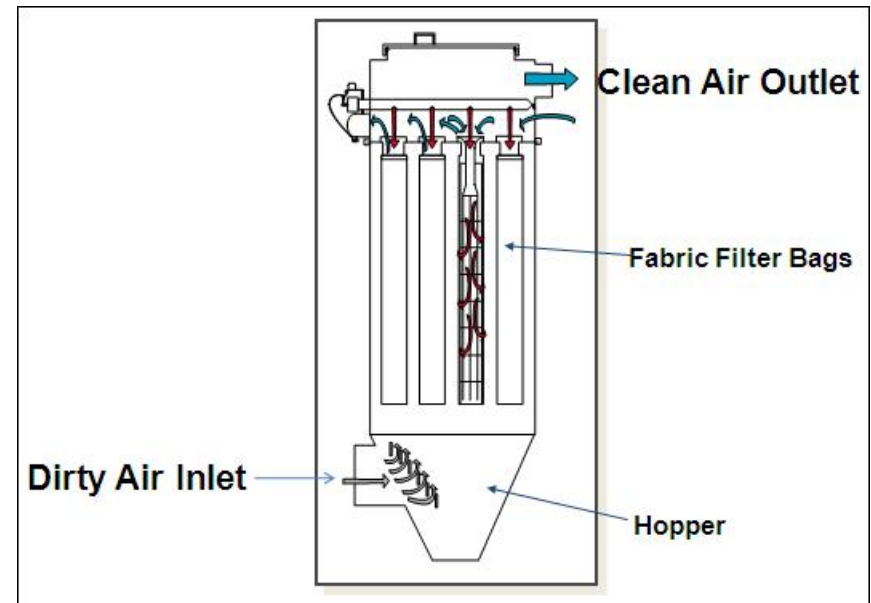
Wood Yard

Particulate Matter Controls At Schiller Station

Units 4 and 6 Electrostatic Precipitator (ESP)

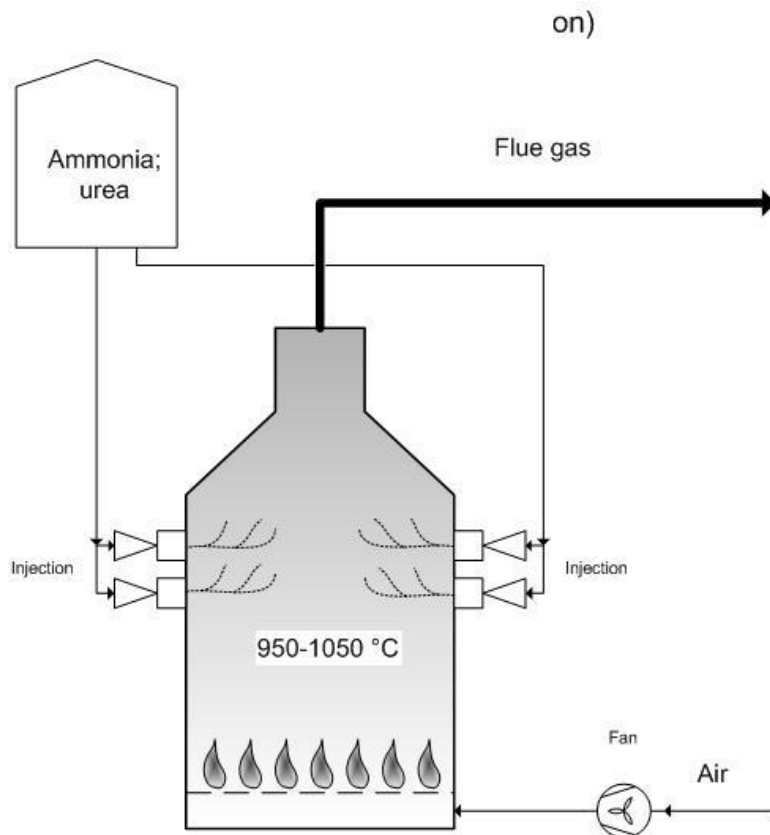


Unit 5 Baghouse

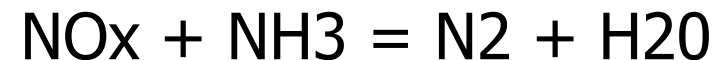


Nitrogen Oxides Control At Schiller Station

- Selective Non-Catalytic Reduction - SNCR

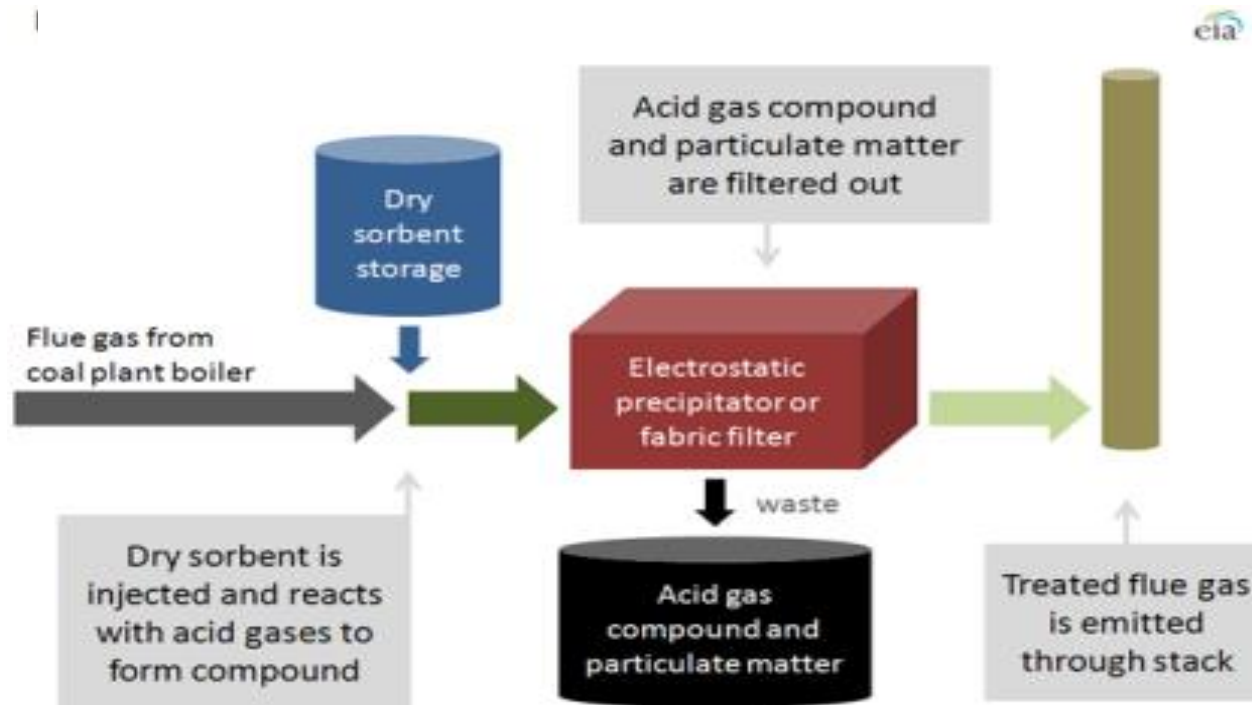


High Temperature
Chemical Reaction



Sulfur/Acid Gas and Mercury Controls At Schiller Station

- Sorbent Injection (SR 4, 5 and 6) and Activated Carbon (SR 4 and 6)





Regulatory Framework

- Schiller Station is a “Major Source” under the Federal Clean Air Act – Required to have a Title V Operating Permit
- NH DES is authorized to issue Title V Permits in NH under EPA oversight
- Title V Permits must contain all applicable State and Federal requirements for air pollution



Title V Operating Permit

- Identifies Emission Units
- Emission Limits and all Applicable Requirements
- Monitoring and Testing Requirements
- Recordkeeping and Reporting Requirements
- Annual Compliance Certification
- Permit Deviation Reporting
- Public Process



Regulated Compounds

■ Criteria Pollutants

- Sulfur Dioxide
- Carbon Monoxide
- Nitrogen Oxide
- Particulate Matter
- Volatile Organic Compounds
- Lead
- Ozone

■ Air Toxics

- 188 Hazardous Air Pollutants
- 600+ NH Air Toxics
- 690 Toxics Release Inventory



Emission Standards

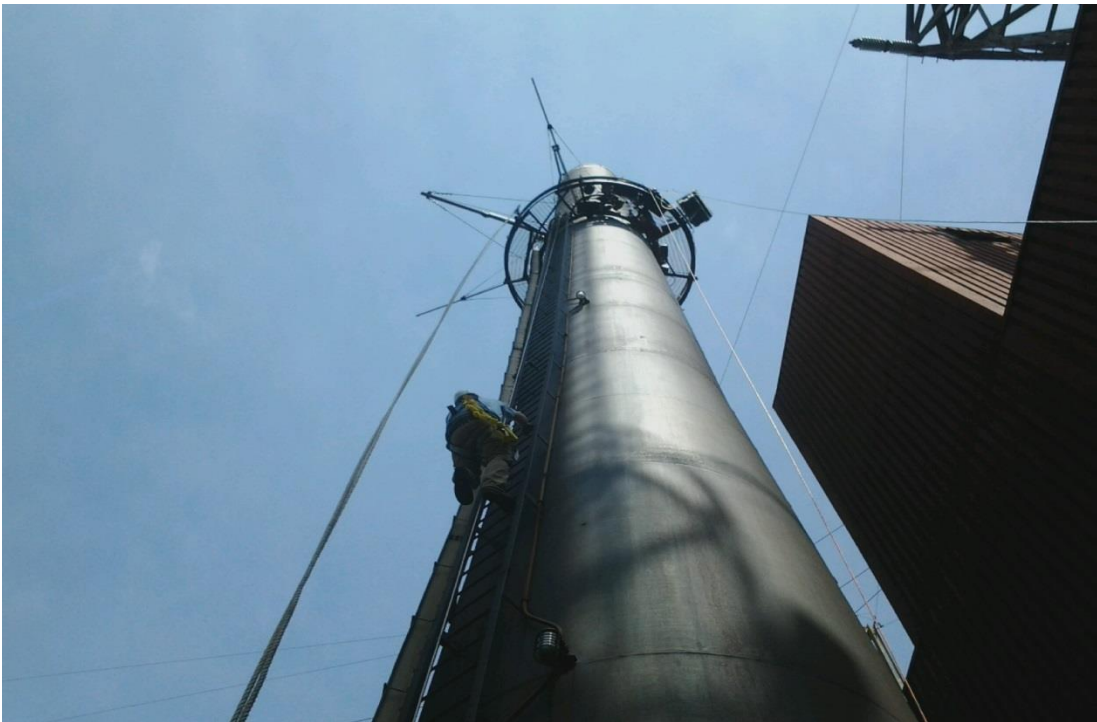
■ Performance Based

- pounds/unit of measure
- State Statute or CAA
- New Source Performance Standards
- National Emission Standards for HAPs
- Reasonable Available Control Technology

■ Health Based

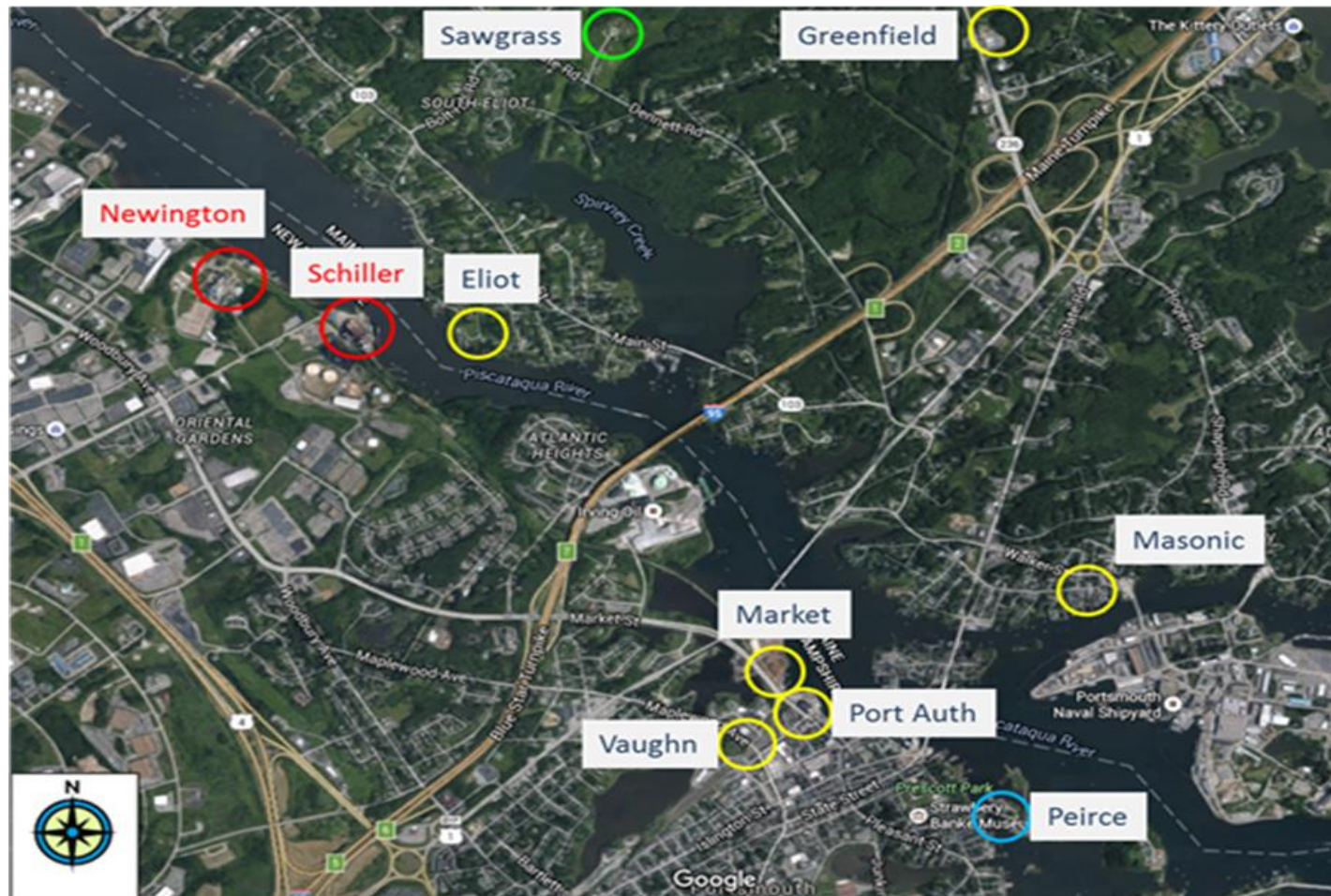
- Concentration in Air
- NH Air Toxics – Ambient Air Limits - Modeled
- National Ambient Air Quality Standards – Measured or Modeled

Emission Monitoring and Stack Testing

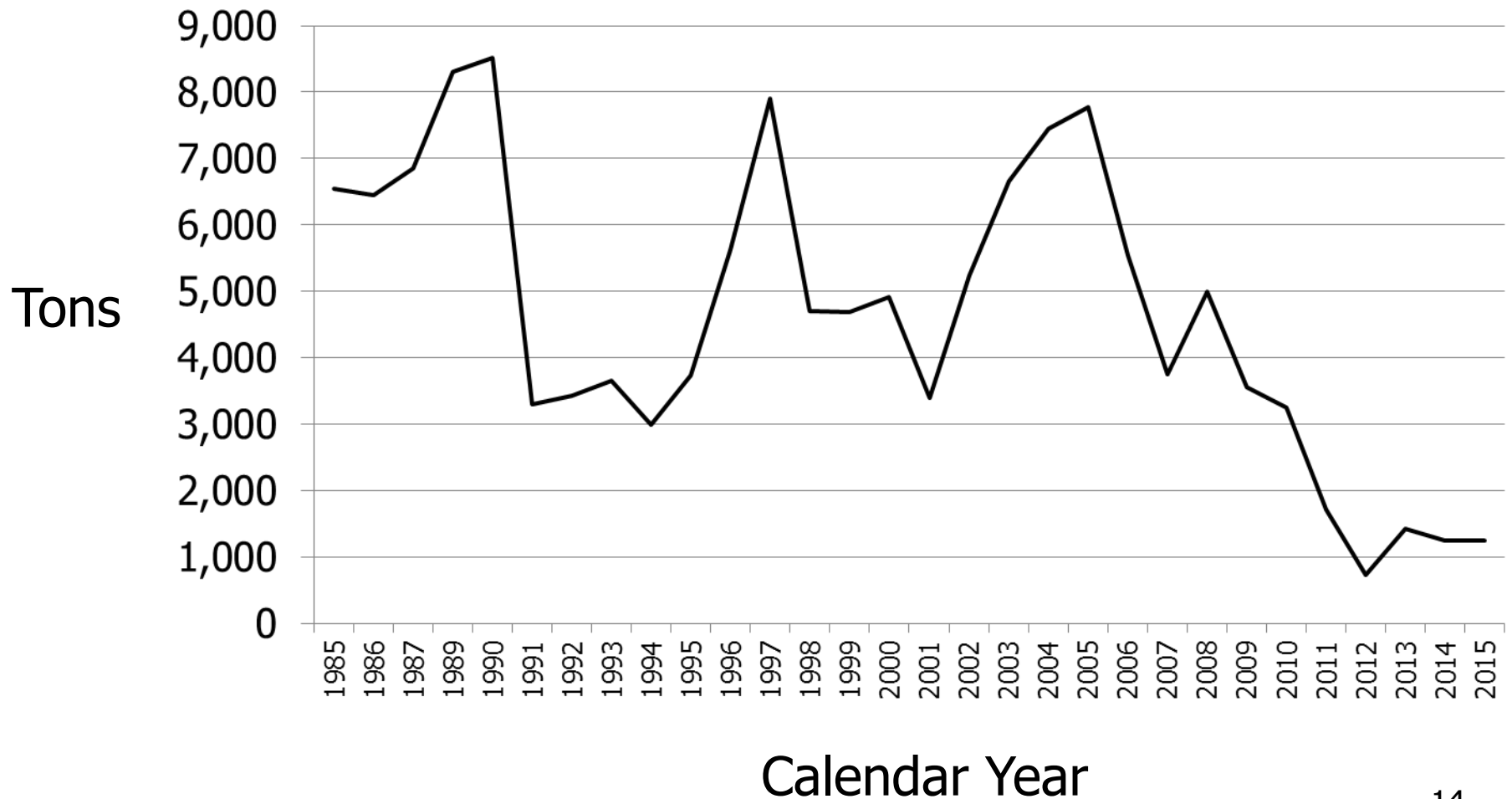


- Operate Continuous Emissions Monitors (CEMs): SO₂, NO_x, CO₂, CO(SR5) Opacity & Oxygen – Since 1995 DES has been on sight to oversee 70 CEM Audits
- Periodic Emissions Testing Since 1995 – DES has been on sight to oversee 56 Stack Tests

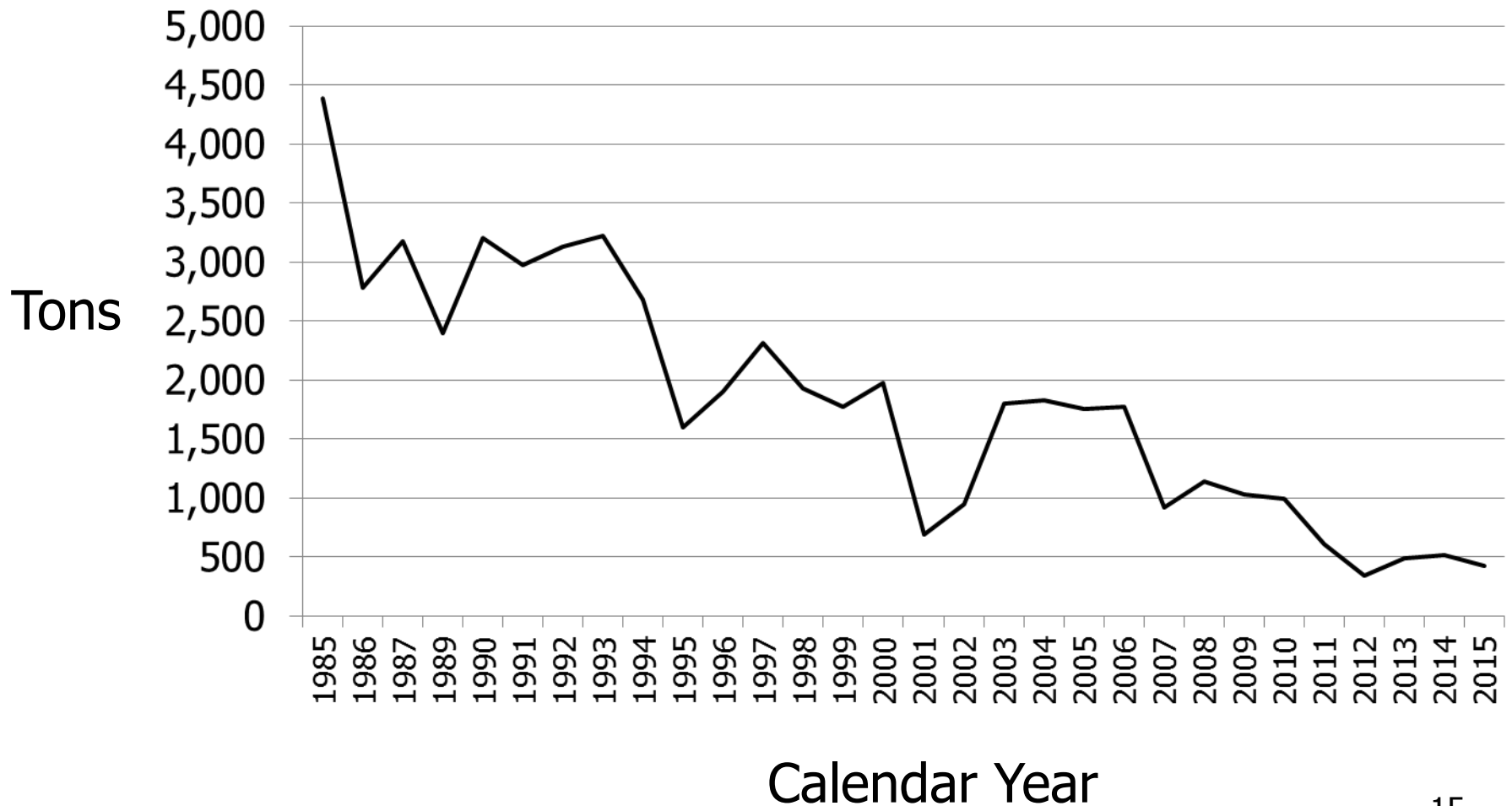
Historical SO₂ Monitoring in the Portsmouth/Eliot Area



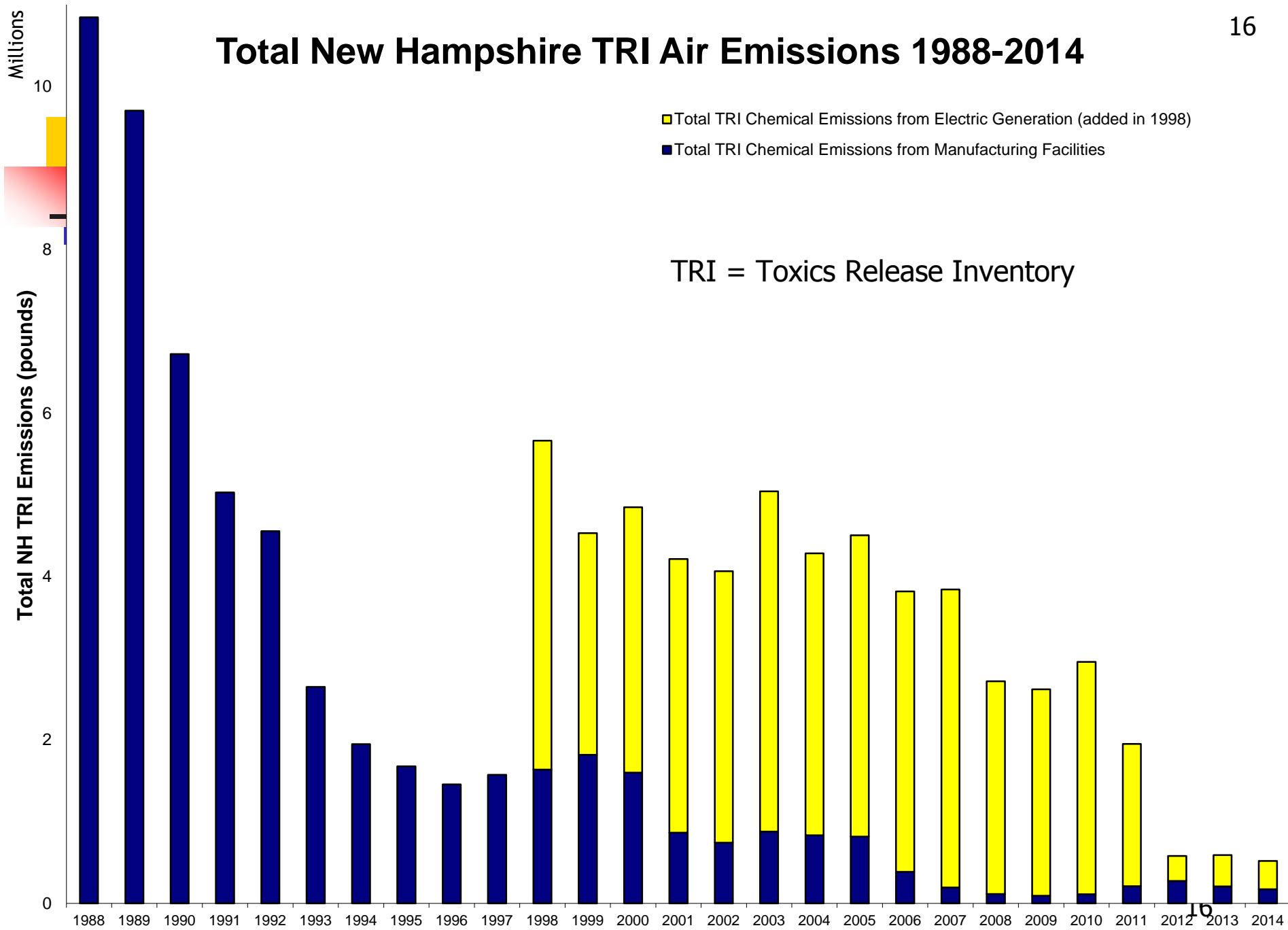
Historical SO2 Emissions At Schiller Station



Historical NOx Emissions At Schiller Station



Total New Hampshire TRI Air Emissions 1988-2014





Questions ?

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